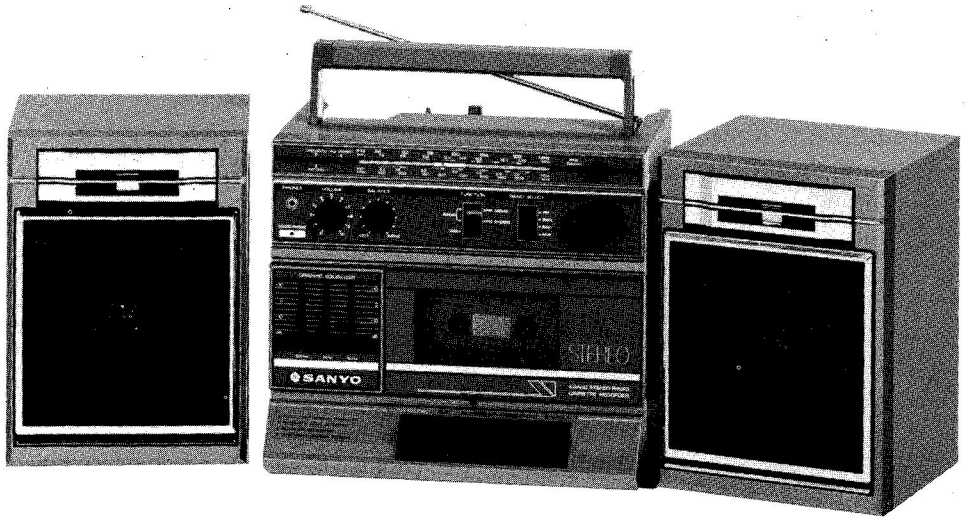
SERVICE MANUAL

SANYO

STEREO RADIO CASSETTE RECORDER

M9711LU

EUROPE



142 322 48

SPECIFICATIONS

Power Source	
AC	115/230V (50/60Hz)
DC	9V
(UM-1, HP2, D Cell, Monozelle, R 20) x 6	
Output Power (Max. music power)	3.5W x 2 (Max.)
Power Consumption	14W
Current Consumption (at Vol. Min.)	
Record mode	180mA
Playback mode	140mA
Fast Forward mode	160mA
Rewind mode	150mA
Recording System	AC Bias
Erasing System	AC Erasing
Tape Speed	1-7/8ips. ±3%
Fast Forward/Rewind Time Time	120sec. (with C-60)
Wow & Flutter	0.3%, RMS
Torque	
Playback	30 ~ 55g-cm
Fast Forward	more than 55g-cm
Rewind	more than 55g-cm
Frequency Response (Overall)	100Hz ~ 8,000Hz
Erase Ratio (Overall)	45dB
Signal to Noise Ratio	30dB
Crosstalk	
Track to Track	62dB
Channel Separation	40dB
Harmonic Distortion (K3)	7%
Hum & Noise (at Vol. Min.)	−68dBs
Frequency Range	
MW	530 ~ 1,605kHz
LW	150 ~ 350kHz
SW	6 ~ 18MHz
FM	87.5 ~ 108MHz

−Specifications subject to change without notice.−

WM-16930

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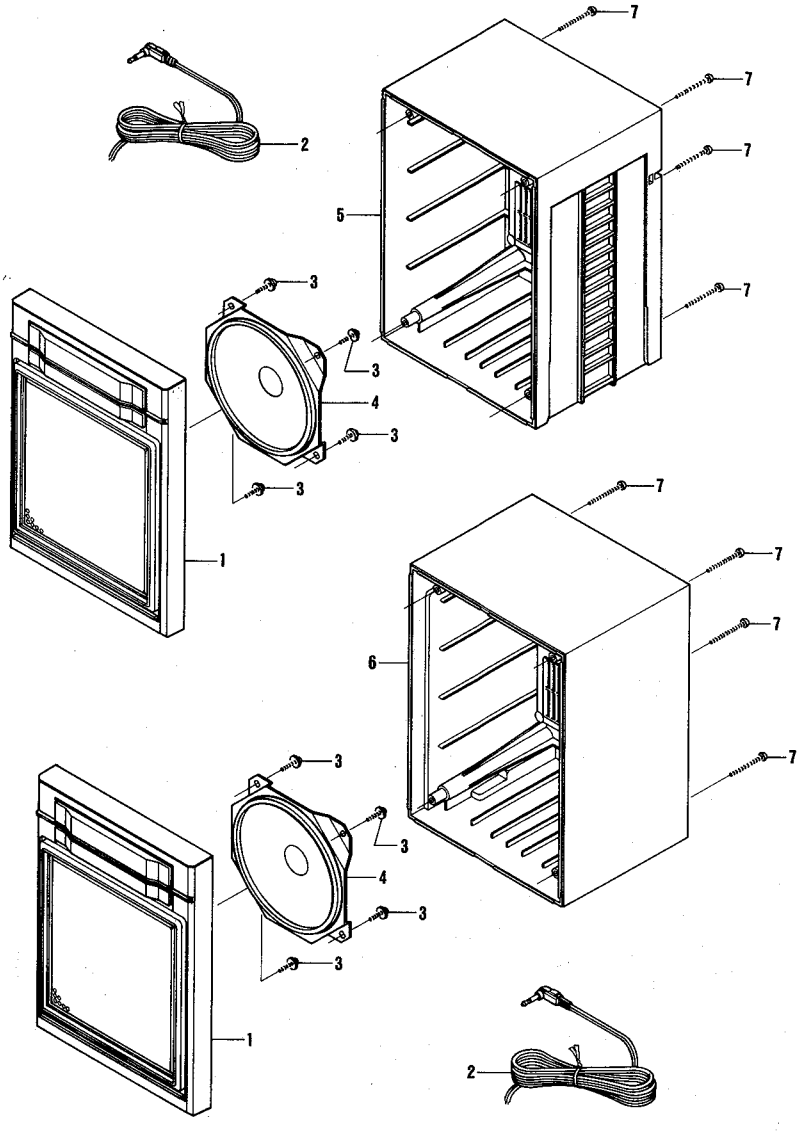
SPEAKER BOX PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	SPEAKER BOX		
1	141-0-1129-16702	Speaker Box Top Assy	2
	Following the Speakers are included in Speaker Box Top Assy.		
	4-1519-71212	Speaker (400Ω) [SP102 & 202]	2
2	4-2369-74141	Plug Cord	2
3	143-3-1303-03013	Screw, Pan Hd. Tapping-B, +M3.0x30	8
4	4-1519-72410	Speaker (3.2Ω) [SP101 & SP201]	2
5	141-2-1129-36601	Speaker Box Bottom, Left	1
6	141-2-1129-36501	Speaker Box Bottom, Right	1
7	141-2-4219-10400	Poly Wave Screw	8

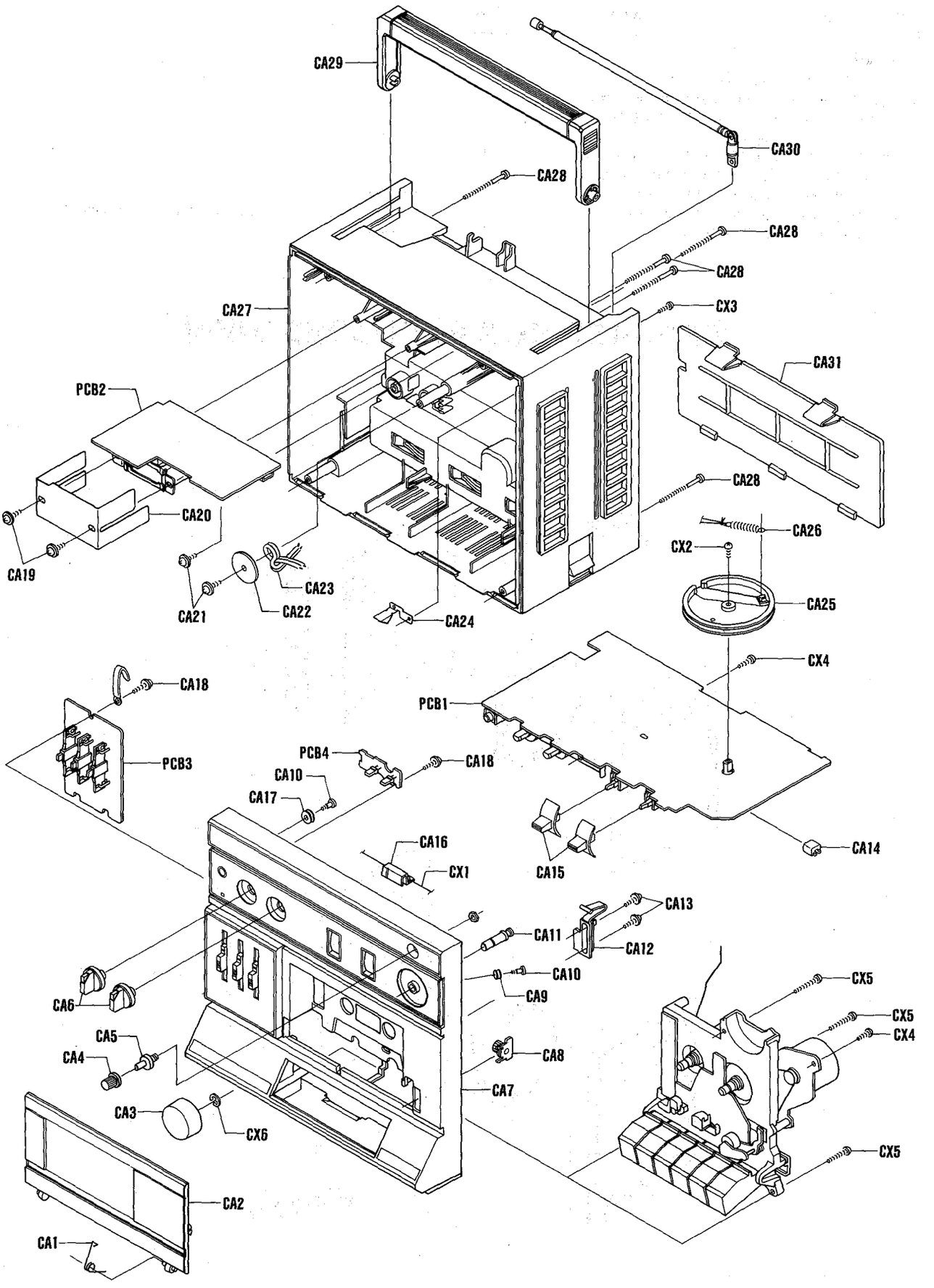
NOTES:

1. Parts order must contain Model Number, Part Number and Description.

SPEAKER BOX EXPLODED VIEW



CABINET EXPLODED VIEW



CABINET PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

Ref. No.	Part No.	Description	Q'ty
	PACKAGE		
	141-6-1419-85103	Individual Carton	1
	141-6-1469-11200	Case Styrofoam Top	1
	141-6-1469-11300	Case Styrofoam Bottom	1
	141-6-2519-15023	Poly Cover 150 x 230	1
	141-6-2519-21490	Poly Cover	2
	141-6-2519-23190	Poly Cover	1
	141-6-4559-03201	Serial No. Sheet	2
	ACCESSORIES		
	141-6-4729-07400	Label Caution	1
	141-6-4729-16700	Label Caution	1
	141-6-4729-37373	Notice FTZ	1
	142-6-4119-32803	Instruction Manual	1
	CABINET		
	141-2-1419-23100	Rating Plate	1
	141-2-4729-04100	Lug	1
	141-2-4729-07100	Wire Band	1
CA1	141-2-8549-22200	Spring Lid Cassette	1
CA2	141-0-1249-37602	Lid Cassette Assy	1
CA3	141-2-1639-61100	Knob Tuning	1
CA4	141-2-1639-62800	Knob Fine Tuning	1
CA5	4-2249-70561	Fine Tuner [FT1]	1
CA6	141-2-1639-62700	Knob Volume	2
CA7	141-0-1129-16503	Cabinet Top Assy	1
	Following the Microphone is included in Cabinet Top Assy.		
	4-1539-70660	Microphone [BM301]	1
CA8	141-0-5519-08501	Gear Eject Assy	1
CA9	141-2-8259-04700	Roller Dial	1
CA10	141-2-4219-14000	Screw	2
CA11	141-2-7519-72800	Shaft Dial	1
CA12	141-2-7419-96100	Lock Lid Cassette	1
CA13	141-2-4219-14600	Screw Washer	2
CA14	141-2-8429-06600	Cap Record Switch	1
CA15	141-2-1629-09200	Knob Function	2
CA16	141-2-5119-13401	Pointer	1
CA17	141-2-5519-03300	Roller Dial A	1
CA18	141-2-4219-20301	Screw	2
CA19	141-2-4219-14200	Screw	2
CA20	141-2-3229-55900	Shilde Plate	1
CA21	141-2-4219-10400	Poly Wave Screw	2
CA22	141-2-3769-13700	Fix Cord	1
CA23	⚠ 4-2439-72790	Power Cord	1
CA24	141-2-3849-05300	Spring Antenna	1
CA25	141-2-5389-05901	Drum Dial	1
CA26	141-2-8519-06700	Spring Cassette Case Lever B	1
CA27	141-0-1129-16605	Cabnet Bottom Assy	1
CA28	141-2-4219-09601	Screw	5
CA29	141-2-1719-29901	Handle Assy	1
CA30	4-2449-70370	Rod Antenna	1
CA31	141-2-1339-37401	Lid Battery	1

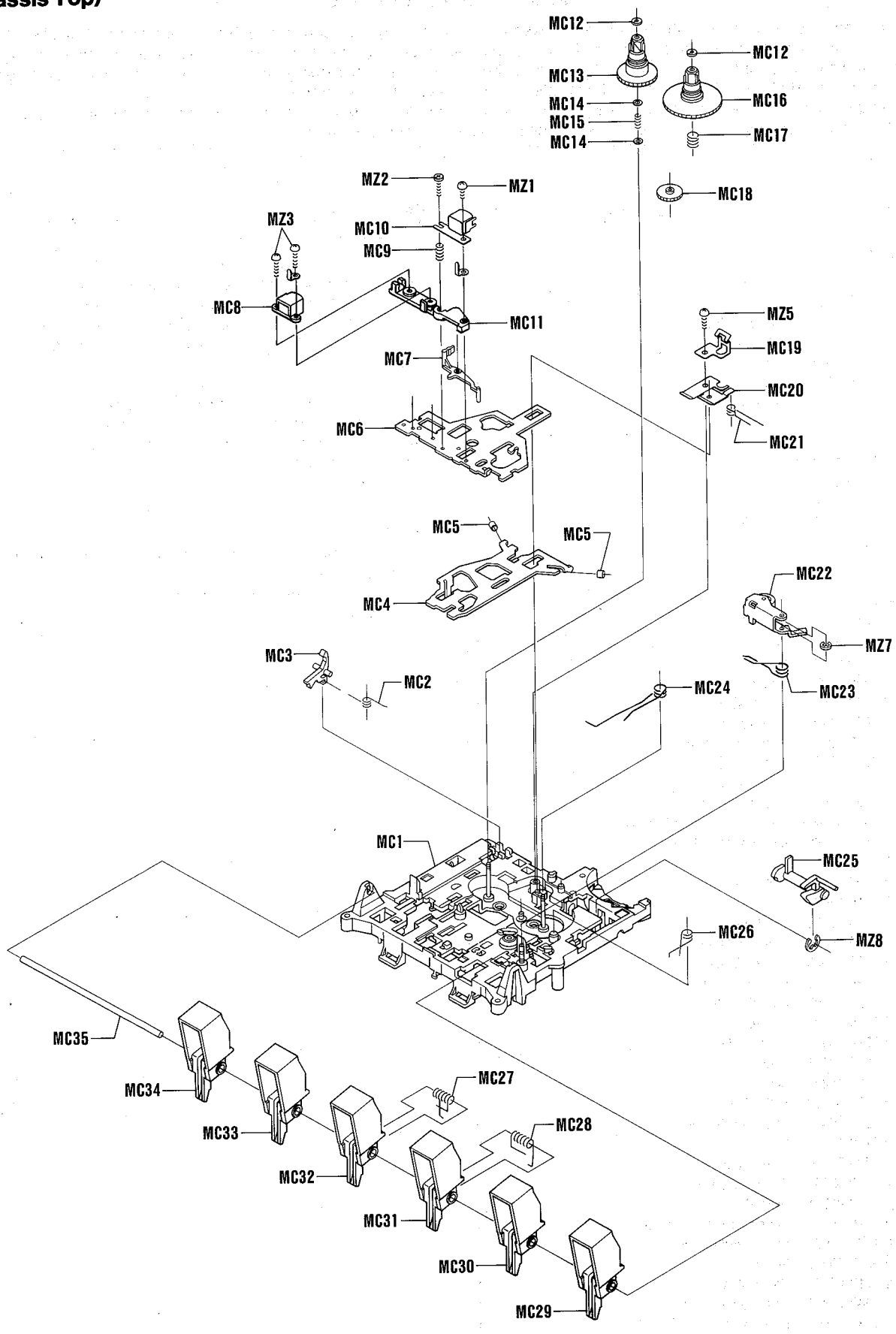
Ref. No.	Part No.	Description	Q'ty
CX1	628-3-0907-50000	String, ϕ0.5	1
CX2	101-3-1302-60511	Screw, Pan Hd., +M2.6x5	1
CX3	101-3-1302-60818	Screw, Pan Hd., +M2.6x8	1
CX4	143-3-1303-01011	Screw, Pan Hd. Tapping-B, +M3.0x10	2
CX5	143-3-1303-02011	Screw, Pan Hd. Tapping-B, +M3.0x20	3
CX6	112-3-1304-00040	E Ring, M4.0	1
PCB1	141-0-1939-12992	AMP./Tuner P.C.B. Assy	1
PCB2	141-0-1939-13033	Power Supply P.C.B. Assy	1
PCB3	141-0-1939-13012	Graphic Equalizer P.C.B. Assy	1
PCB4	141-0-1939-13021	LED P.C.B. Assy	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

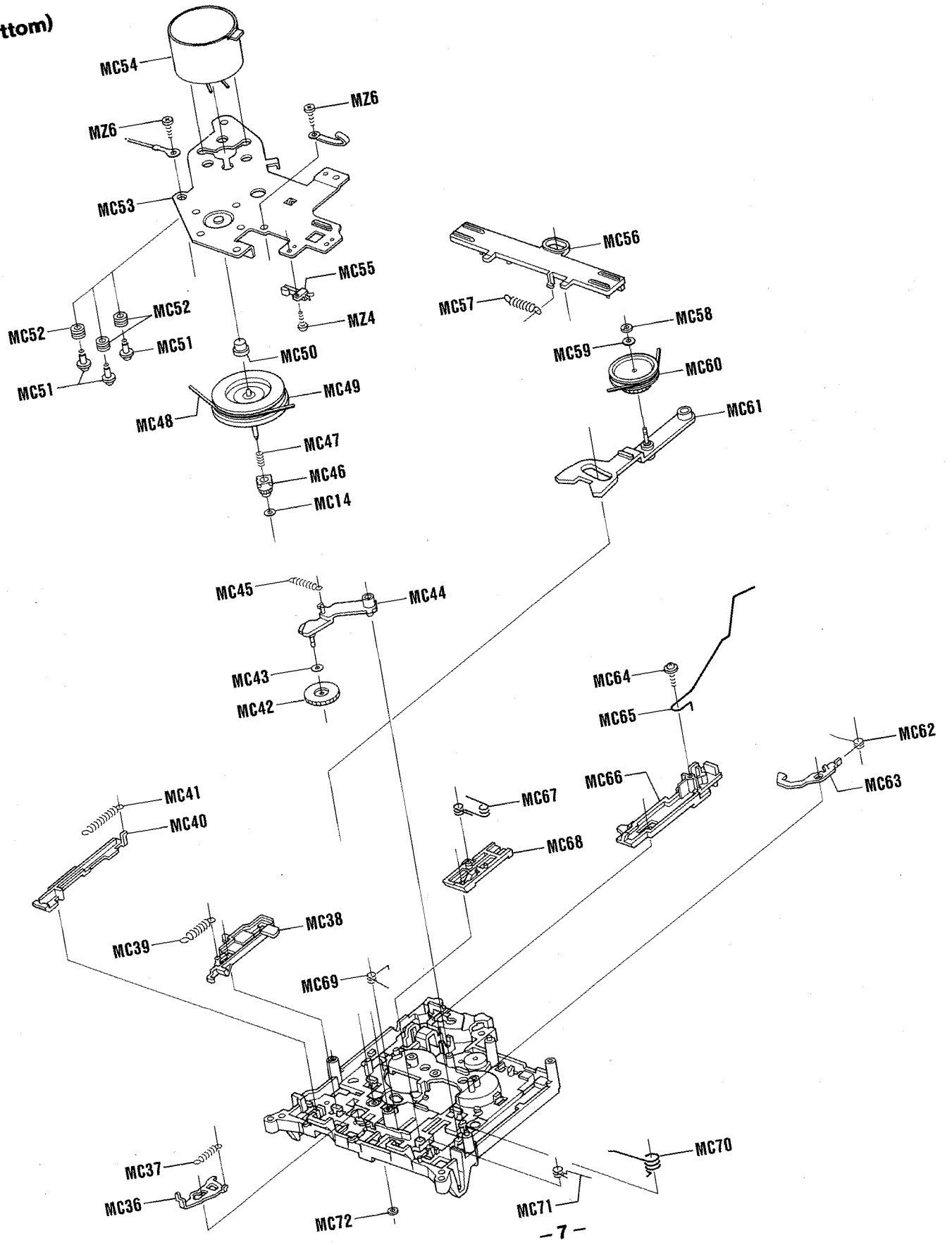
MECHANISM EXPLODED VIEW

(Chassis Top)



MECHANISM EXPLODED VIEW (Continued)

(Chassis Bottom)



MECHANISM PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	MECHANISM		
	4-2539-70301	Micro Inductor (100μH) [L302]	1
	4-2359-78763	Connector 5P Assy [CN301]	1
	4-2379-70150	Lug Wire Assy	1
	141-2-4729-00200	Lug	1
	141-2-4729-01900	Lug	2
	141-2-4729-04100	Lug	1
C312	CD1-0-7160-0001V	Electrolytic 100μF 16V	1
MC1	141-0-3119-18907	Chassis Assy	1
MC2	141-2-8519-97300	Spring Interlock	1
MC3	141-2-8419-10400	Lever Interlock	1
MC4	141-2-7419-69500	Arm Brake	1
MC5	141-2-4459-25200	Cover Brake	2
MC6	141-2-7319-43201	Base Slide	1
MC7	141-2-7419-68800	Lever Sensor	1
MC8	4-2429-71521	Erase Head [HD302]	1
MC9	141-2-8519-47400	Spring Head	1
MC10	4-2429-72970	R/P Head [HD301]	1
MC11	141-2-3529-29400	Spacer Head	1
MC12	141-2-4539-15700	Washer	2
MC13	141-0-5319-05400	Supply Reel Assy	1
MC14	141-2-4539-09400	Washer	3
MC15	141-2-8559-00100	Spring Supply	1
MC16	141-0-5319-05301	Take-up Reel Assy	1
MC17	141-2-8559-09400	Spring Reel Take	1
MC18	141-2-5519-36400	Gear F.FWD	1
MC19	141-2-8539-45200	Spring Cassette	1
MC20	141-2-8539-41102	Spring Cassette	1
MC21	141-2-8519-96900	Spring Cassette-up	1
MC22	141-0-5419-03202	Pinchroller Assy	1
MC23	141-2-8519-97200	Spring Pinchroller	1
MC24	141-2-8519-96800	Spring Arm Idler	1
MC25	141-2-7419-92600	Lever Cassette-up	1
MC26	141-2-8519-97800	Spring Pause Lock	1
MC27	141-2-8519-96600	Spring Button Rewind	1
MC28	141-2-8519-96601	Spring Button F.FWD	1
MC29	141-2-1659-57002	Button Stop/Eject	1
MC30	141-2-1659-56902	Button Pause	1
MC31	141-2-1659-56802	Button F.FWD	1
MC32	141-2-1659-56702	Button Rewind	1
MC33	141-2-1659-56602	Button Play	1
MC34	141-2-1659-56502	Button Record	1
MC35	141-2-6129-04700	Spindle Button	1
MC36	141-2-7419-69400	Lever Shut-off	1
MC37	141-2-8519-97600	Spring Lever ASO	1
MC38	141-2-7419-69000	Lever Pause	1
MC39	141-2-8519-51600	Spring, Plate Lock	1
MC40	141-2-7419-68900	Lever Stop Eject	1
MC41	141-2-8519-39300	Spring, Base Slide	2
MC42	141-2-5519-36500	Gear Take-up	1
MC43	141-2-4539-05500	Washer	1
MC44	141-0-7439-09200	Arm Take-up Assy	1
MC45	141-2-8519-33000	Spring Lever Lock Index	1
MC46	141-2-5519-36601	Gear Capstan	1
MC47	141-2-8519-98200	Spring Flywheel	1
MC48	141-2-5649-24500	Belt Capstan	1
MC49	141-0-5219-07202	Flywheel Assy	1
MC50	141-2-4469-36100	Thrust Capstan	1
MC51	141-2-4219-30100	Screw	3
MC52	141-2-4459-11800	Cushion Motor	3
MC53	141-2-3519-65600	Support Flywheel	1
MC54	4-5279-71521	Motor [M301]	1
MC55	4-2319-75820	Leaf Switch (Power) [S303]	1
MC56	141-2-7319-43100	Plate Lock	1
MC57	141-2-8519-41300	Spring, Lever Lock	1
MC58	141-2-4539-15800	Washer	1
MC59	141-2-4539-09300	Washer	1
MC60	141-2-5519-36701	Idler Pulley Gear	1
MC61	141-0-7439-09300	Arm Idler Assy	1
MC62	141-2-8529-13400	Spring Lever Stop Record	1
MC63	141-2-7439-31400	Lever Stopper Record	1
MC64	141-2-4219-20301	Poly Wave Screw	1
MC65	141-2-8529-29800	Spring Record	1
MC66	141-2-7419-88300	Lever Record	1
MC67	141-2-8519-97900	Spring Base	1
MC68	141-2-7419-69100	Lever Play	1
MC69	141-2-8519-97000	Spring Brake	1
MC70	141-2-8519-98000	Spring Lever Play	1
MC71	141-2-8519-98100	Spring Lever Record	1
MC72	141-2-4539-17200	Washer	1
MZ1	101-3-1302-00611	Screw, Pan Hd., +M2.0x6	1
MZ2	101-3-3702-00611	Screw, Bind Hd., M2.0x6	1
MZ3	101-3-1702-00811	Screw, Bind Hd., +M2.0x8	2
MZ4	103-3-1302-60511	Screw, Pan Hd. Tapping-2, +M2.6x5	1
MZ5	143-3-1302-60811	Screw, Pan Hd. Tapping-B, +M2.6x8	1
MZ6	143-3-1702-60818	Screw, Bind Hd. Tapping-B, +M2.6x8	2
MZ7	112-3-1302-00082	E Ring, M2.0	1
MZ8	112-3-1304-00082	E Ring, M4.0	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

TUNER ADJUSTMENT

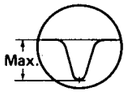
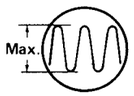
EQUIPMENT REQUIRED

- AM Standard Signal Generator
- FM Standard Signal Generator
- Generator Scope
- Loop Antenna
- Dummy Antenna (30Ω/10pF) for SW
- Ceramic Capacitor (10pF)
- Dummy Antenna (75Ω, unbalanced type) for FM
- Carbon Resistor (100kΩ)
- VTVM
- Oscilloscope
- Frequency Counter
- Alignment Tool
- Before performing the adjustment, set the switches and controls as follows:
  - ‡ Function Switch ..... RADIO/FM MONO
  - ‡ Volume Control ..... Arbitrary

NOTE:
Use an alignment tool with plastic grip for all adjustments.

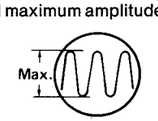
MW ALIGNMENT

Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF for AM	Connect loop antenna to output terminal of gene-scope. Place loop antenna by bar anttenna.	Connect VTVM and oscilloscope to Speaker terminals.	460kHz	Low End	T3	Obtain symmetrical curve and maximum amplitude. 
2	Calibration of Tuning Range	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna.		510kHz		T6	Obtain sine-wave of 400Hz and maximum amplitude. 
3				1,670kHz	High End	TC4	
4	Adjustment of Tracking			600kHz	600kHz	L4-1 (bar ant. coil)	
5				1,400kHz	1,400kHz	TC3 (PVC)	
6	Repeat the above steps until no further change is noted in any of the adjustments.						

LW ALIGNMENT

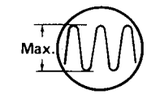
Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM and oscilloscope to Speaker terminals.	145kHz	Low End	T7	Obtain sine-wave of 400Hz and maximum amplitude. 
2				365kHz	High End	TC5	
3	Adjustment of Tracking			170kHz	170kHz	L4-2 (bar ant. coil)	
4				310kHz	310kHz	TC2	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

TUNER ADJUSTMENT (Continued)

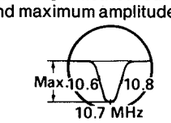
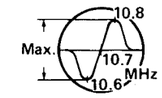
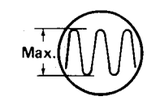
SW ALIGNMENT

Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect AM signal generator to antenna terminals (TP1 and TP2) through dummy antenna (30Ω/10pF).	Connect VTVM and oscilloscope to Speaker terminals.	5.7MHz	Low End	T5	Obtain sine-wave of 400Hz and maximum amplitude. 
2				18.7MHz	High End	TC3	
3	Adjustment of Tracking			6.5MHz	6.5MHz	T4	
4				17.0MHz	17.0MHz	TC1	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

FM ALIGNMENT

Standard test frequency 400Hz and deviation 22.5kHz

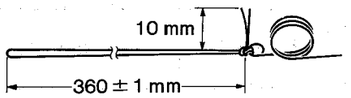
Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF	Place output of gene-scope to TP3 through capacitor (10pF).	Connect input terminal of gene-scope to detector output terminals (TP4).	10.7MHz	Low End	Turn T2 (blue core) fully counter-clockwise and then, adjust T1.	Obtain symmetrical curve and maximum amplitude. 
2						T2 (blue core)	Obtain **S** curve and maximum amplitude. 
3	Calibration of Tuning Range	Connect FM signal generator to antenna terminals (TP1 and TP2) through dummy antenna (75Ω, unbalanced type).	Connect VTVM and oscilloscope to Speaker terminals.	87.35MHz		L2	Obtain sine-curve and maximum amplitude. 
4				108.25MHz	High End	TC2 (PVC)	
5	Adjustment of Tracking			90MHz	90MHz	L1	
6				106MHz	106MHz	TC1 (PVC)	
7	Repeat the above steps until no further change is noted in any of the adjustments.						

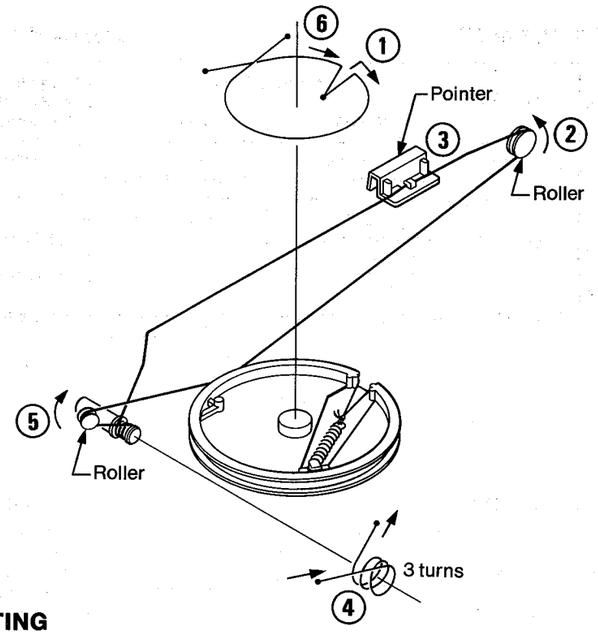
FM MPX (Multiplex) ADJUSTMENT

19kHz (V.C.O.) ADJUSTMENT

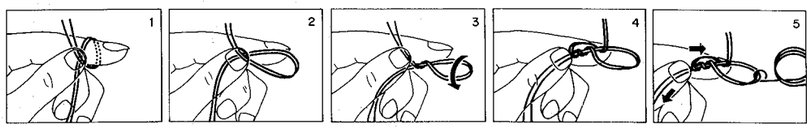
1. Before the adjustment, set the switches as follows:
   - Function Switch ..... RADIO/FM STEREO
   - Band Select Switch ..... FM
2. Connect a flequency counter to TP5 through a resistor 100kΩ.
3. Adjust the potentiometer (PT1) until the oscillation frequency of IC3 becomes 19kHz (±20Hz).

DIAL CORD STRINGING





CORD KNOTTING



NOTE:
Check to see that the dial cord is correctly strung by turning the dial.

ADJUSTMENT PROCEDURES

GENERAL REMARKS

- Before the adjustments, wipe off stains on the tape contacting surfaces of the parts, the belt and pinch roller with a soft cloth soaked in alcohol. Trouble may occur because of oil and grease stains.
- Carefully handle the belt because grease easily attaches to it.
- Check the rubber-used parts, If the rubber has quality deterioration or scratch marks, replace the part with a new one.

EQUIPMENT REQUIRED

- VTVM (2 sets)
- Frequency Counter
- Dummy Load (32Ω)
- Dualtrace Oscilloscope
- DC Constant-voltage Regulator
- Test Tapes
  - ‡ 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - ‡ 8kHz Test Tape (Example: TEAC MTT-113C) for Head Azimuth Adjustment
- Alignment Tool

Unless especially specified, set the switches and controls as follows:

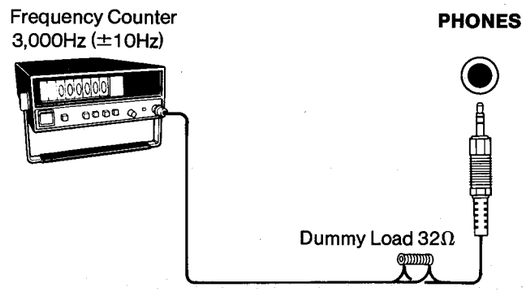
- AC/BATT. Switch ..... DC
- Function Switch ..... TAPE
- Balance Control ..... Center (click position)
- Volume Control ..... Arbitrary

NOTE:
- ‡ Obtain the output from the headphone jack when the adjustment is performed.
- ‡ Supply 9V DC from the constant-voltage regulator to the battery terminals.

ADJUSTMENT PROCEDURES (Continued)

TAPE SPEED ADJUSTMENT

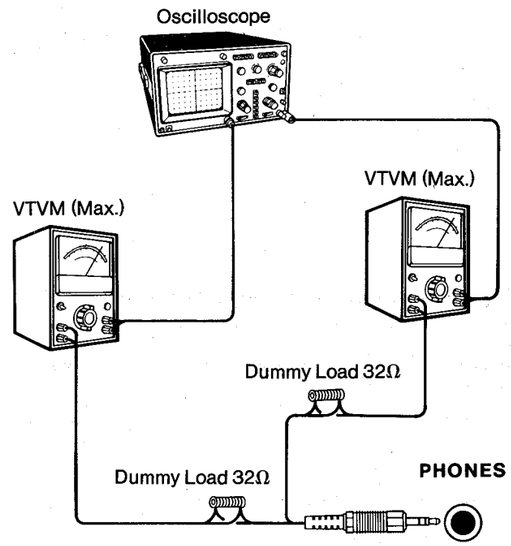
1. Detach the Cabinet Bottom and connect a frequency counter to the left or right channel output of the headphone jack as illustrated. Then, insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.



2. Adjust the tape speed by slowly turning the potentiometer inside the Motor with an alignment tool until the frequency counter reads 3,000Hz (±10Hz).

HEAD AZIMUTH ADJUSTMENT

Detach the cassette compartment lid from the unit and connect a dualtrace oscilloscope and a VTVM to both channel outputs of the headphone jack as illustrated.

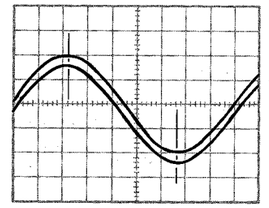


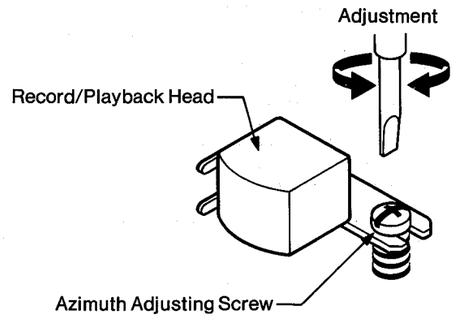
Then, set the dualtrace oscilloscope as follows:

- ‡ MODE ..... CHOP (chopped)
- ‡ SOURCE ..... INT (internal), CH1 or CH2
- ‡ SWEEP MODE ..... AUTO (automatic)

NOTE:
Adjust the field on the oscilloscope with the VOLT. ADJ. and TIME ADJ.

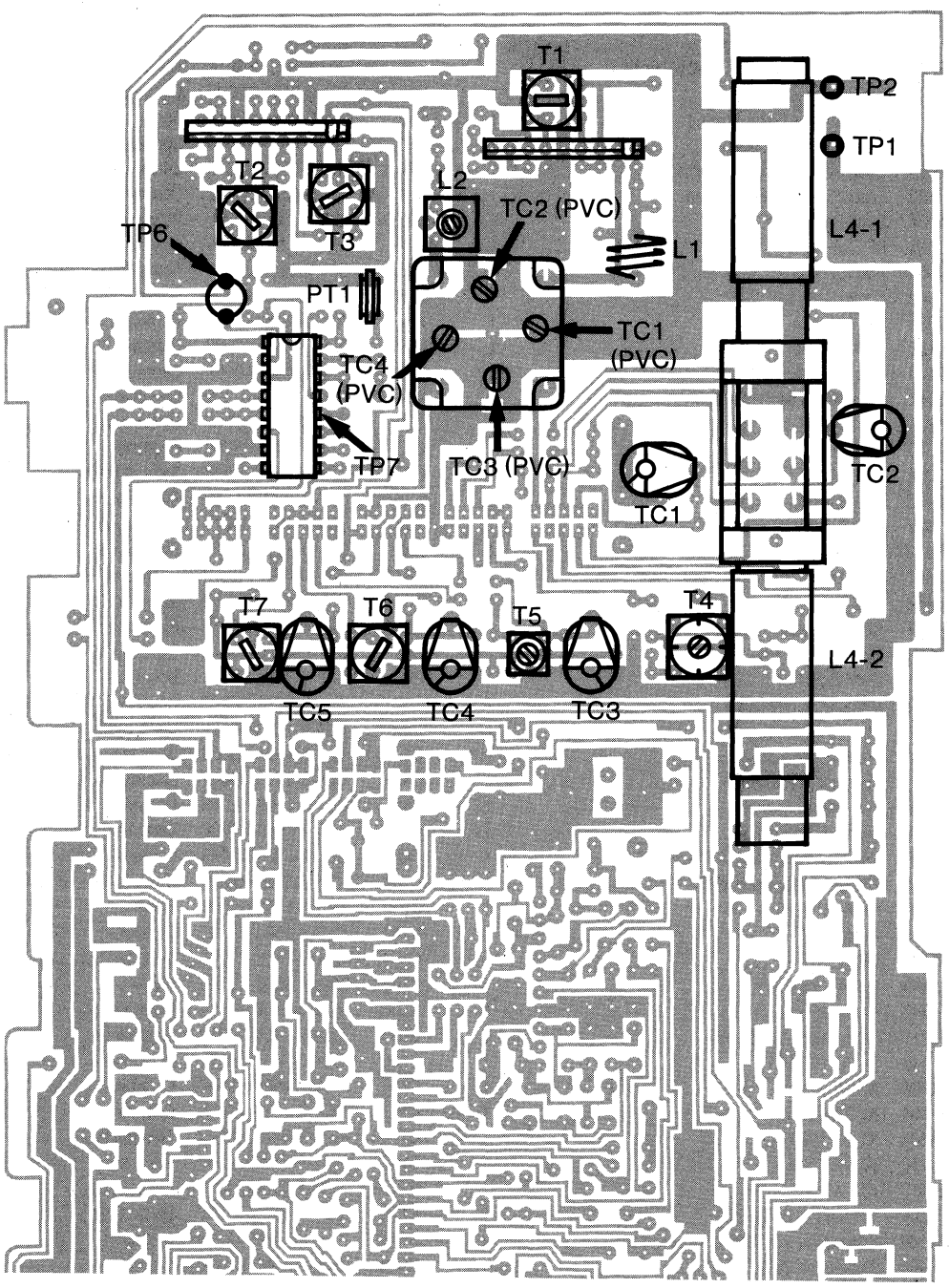
1. Insert a 8kHz test tape (Example: TEAC MTT-113C) into the cassette compartment.
2. While playing back the test tape, turn the azimuth adjusting screw until the wave forms of the right and left channels are superimposed and set to optimum at maximum reading on the VTVM.





3. After the adjustment, secure the adjusting screw with paint or glue.

AMP / TUNER P.C.BOARD LAYOUT
ALIGNMENT POINTS
(TOP VIEW)



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	AMP./TUNER P.C.B. ASSY		
PCB1	141-0-1939-12992	AMP./Tuner P.C.B. Assy	1
	4-2369-73781	Pin 1P	7
	4-2439-72870	Flat Wire 6	1
	4-2359-79074	Connector 2P Assy (for FT1)	1
	141-2-3689-08400	Radiator IC (for IC302)	1
CN301	4-2369-73380	Connector 5P	1
J101	4-2352-01160	Jack 3P (Speaker, Left)	1
J201	4-2352-01160	Jack 3P (Speaker, Right)	1
J301	4-2359-75701	Jack 5P with Switch (Headphones)	1
J302	4-2359-75790	Din 5P Socket	1
S301	4-2319-79000	Slide Switch (Record/Play)	1
S302	4-2319-78370	Lever Switch (Function)	1
S304	4-2319-75590	Slide Switch (Beat Cancel)	1
SW1	4-2319-77330	Lever Switch (Band Select)	1
BPF1	4-2539-71021	Band Pass Filter	1
L1	4-2599-70810	RF Coil	1
L2	4-2589-71960	FM OSC Trans	1
L3	4-2532-00040	Choke Coil (1mH)	1
L4	4-2579-72390	Bar Antenna	1
L101	4-2559-70120	Coil (33mH)	1
L201	4-2559-70120	Coil (33mH)	1
L301	4-2539-70301	Micro Inductor (100μH)	1
T1	4-2569-71631	IFT FM	1
T2	4-2569-71340	IFT FM	1
T3	4-2569-71353	IFT AM	1
T4	4-2579-70722	Antenna Coil	1
T5	4-2589-71422	OSC Trans SW	1
T6	4-2589-71413	OSC Trans MW	1
T7	4-2589-71400	OSC Trans	1
T301	4-2589-71462	OSC Trans	1
CF1	4-2539-70881	Ceramic Filter	1
CF2	4-2539-70682	Mechanical Filter	1
CF3	4-2539-70881	Ceramic Filter	1
PVC1	4-2249-70793	Variable Condenser	1
TC1	4-2249-70290	Trimmer Condenser	1
TC2	4-2249-70350	Trimmer Condenser	1
TC3	4-2249-70290	Trimmer Condenser	1
TC4	4-2249-70290	Trimmer Condenser	1
TC5	4-2249-70350	Trimmer Condenser	1
VR301	4-2229-76140	Volume Unit (A-20kΩ, W-50kΩ)	1
PT1	4-2229-73620	Potentiometer (B-10kΩ)	1
D1	4-2029-71440	Diode, 1SS 95	1
D101	4-2029-71440	Diode, 1SS 95	1
D102	4-2029-71440	Diode, 1SS 95	1
D201	4-2029-71440	Diode, 1SS 95	1
D202	4-2029-71440	Diode, 1SS 95	1
D301	4-2029-72211	Zener Diode, MTZ6.8B	1
D302	4-2029-71440	Diode, 1SS 95	1
IC1	4-2069-74790	IC, BA 4412	1
IC2	4-2069-72964	IC, BA4236 L	1
IC3	4-2069-72801	IC, BA 1335	1
IC301	4-2069-71710	IC, M 51544 L	1
IC302	207-5-0774-55510	IC, LA 4555	1
Q1	4-2039-71201	Transistor, 2SC 2063	1
Q301	203-5-5083-33160	Transistor, 2SC 3331	1
Q302	203-5-4570-73460	Transistor, 2SD 734	1
C1	CC5-6-A500-KD00R	Ceramic 5.6pF 50V ±10%	1
C2	CC1-8-0500-JD01R	Ceramic 18pF 50V ±5%	1
C3	CI1-0-3160-NG01R	Boundary 0.01μF 16V ±30%	1
C4	CC1-0-2500-KE00R	Ceramic 0.001μF 50V ±10%	1
C5	CI1-0-3160-NG01R	Boundary 0.01μF 16V ±30%	1
C6	CC1-8-0500-JD01R	Ceramic 18pF 50V ±5%	1
C7	CC1-5-0500-JD01R	Ceramic 15pF 50V ±5%	1
C8	CC4-7-A500-KD01R	Ceramic 4.7pF 50V ±10%	1
C9	CI1-0-3160-NG01R	Boundary 0.01μF 16V ±30%	1
C10	CI2-2-3250-KE00C	Boundary 0.022μF 25V ±10%	1
C11	CD1-0-6160-0001V	Electrolytic 10μF 16V	1
C12	CI2-2-3160-NG00R	Boundary 0.022μF 16V ±30%	1
C13	CI1-0-3160-NG01R	Boundary 0.01μF 16V ±30%	1
C14	CI4-7-3250-KE00C	Boundary 0.047μF 25V ±10%	1
C15	CI1-0-3160-NG01R	Boundary 0.01μF 16V ±30%	1
C16	CC1-5-0500-JD01R	Ceramic 15pF 50V ±5%	1
C17	CI1-0-3160-NG01R	Boundary 0.01μF 16V ±30%	1
C18	CC1-5-0500-JD00R	Ceramic 15pF 50V ±5%	1
C19	CC2-0-0500-JD01R	Ceramic 20pF 50V ±5%	1
C20	CI2-2-3160-NG00R	Boundary 0.022μF 16V ±30%	1
C21	CC1-0-0500-JD01R	Ceramic 10pF 50V ±5%	1
C22	CC5-6-0500-JD00R	Ceramic 56pF 50V ±5%	1
C23	CP3-1-2101-J002V	Polypropylen 0.0031μF 100V ±5%	1
C24	CP3-6-1101-J002V	Polypropylen 360pF 100V ±5%	1
C25	CP1-8-1101-J002V	Polypropylen 180pF 100V ±5%	1
C26	CC8-2-A500-KD01R	Ceramic 8.2pF 50V ±10%	1
C27	CC1-5-0500-JD01R	Ceramic 15pF 50V ±5%	1
C28	CC1-2-1500-KE01R	Ceramic 120pF 50V ±10%	1
C29	CC4-7-A500-KD00R	Ceramic 4.7pF 50V ±10%	1
C30	CI2-2-3160-NG00R	Boundary 0.022μF 16V ±30%	1
C31	CD1-0-5500-0001V	Electrolytic 1μF 50V	1
C32	CI4-7-3250-KE00C	Boundary 0.047μF 25V ±10%	1
C33	CP6-8-1101-J002V	Polypropylen 680pF 100V ±5%	1
C34	CD2-2-4500-0001V	Electrolytic 0.22μF 50V	1
C35	CD4-7-4500-0001V	Electrolytic 0.47μF 50V	1
C36	CD1-0-5500-0001V	Electrolytic 1μF 50V	1
C37	CI1-0-3160-NG01R	Boundary 0.01μF 16V ±30%	1
C38	CI1-0-3160-NG01R	Boundary 0.01μF 16V ±30%	1
C39	CD1-0-4500-0001V	Electrolytic 0.1μF 50V	1
C40	CD1-0-4500-0001V	Electrolytic 0.1μF 50V	1
C41	CI1-2-3250-KE00C	Boundary 0.012μF 25V ±10%	1
C42	CI1-2-3250-KE00C	Boundary 0.012μF 25V ±10%	1
C43	CD1-0-7100-0001V	Electrolytic 100μF 10V	1
C44	CI2-2-3160-NG00R	Boundary 0.022μF 16V ±30%	1
C45	CD4-7-7100-0006V	Electrolytic 470μF 10V	1
C46	CC1-0-1500-KE01R	Ceramic 100pF 50V ±10%	1
C47	CC1-0-1500-KE00C	Ceramic 100pF 50V ±10%	1
C48	CC1-0-0500-JD01R	Ceramic 10pF 50V ±5%	1
C101	CI1-8-2500-KF00C	Boundary 0.0018μF 50V ±10%	1
C102	CC3-3-1500-KE00C	Ceramic 330pF 50V ±10%	1
C103	CC3-3-1500-KE00C	Ceramic 330pF 50V ±10%	1
C104	CC1-0-2500-KE00C	Ceramic 0.001μF 50V ±10%	1
C105	CM2-7-3500-K00SV	Mylar 0.027μF 50V ±10%	1
C106	CD1-0-6160-0001V	Electrolytic 10μF 16V	1
C107	CD4-7-6100-0001V	Electrolytic 47μF 10V	1
C108	CD1-0-4500-0001V	Electrolytic 0.1μF 50V	1
C109	CC1-5-2500-KE00C	Ceramic 0.0015μF 50V ±10%	1
C111	CC4-7-1500-KE01R	Ceramic 470pF 50V ±10%	1
C112	CD4-7-5500-0001V	Electrolytic 4.7μF 50V	1
C113	CD1-0-7100-0006V	Electrolytic 100μF 10V	1
C114	CD4-7-6100-0001V	Electrolytic 47μF 10V	1
C115	CD4-7-7100-0006V	Electrolytic 470μF 10V	1
C116	4-2239-72290	Capacitor 0.15μF 50V	1
C118	CC3-3-1500-KE00C	Ceramic 330pF 50V ±10%	1
C119	CC2-2-1500-KE00C	Ceramic 220pF 50V ±10%	1
C201	CI1-8-2500-KF00C	Boundary 0.0018μF 50V ±10%	1
C202	CC3-3-1500-KE00C	Ceramic 330pF 50V ±10%	1
C203	CC3-3-1500-KE00C	Ceramic 330pF 50V ±10%	1
C204	CC1-0-2500-KE00C	Ceramic 0.001μF 50V ±10%	1
C205	CM2-7-3500-K00SV	Mylar 0.027μF 50V ±10%	1
C206	CD1-0-6160-0001V	Electrolytic 10μF 16V	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C207	CD4-7-6100-0001V	Electrolytic	47μF	10V		1
C208	CD1-0-4500-0001V	Electrolytic	0.1μF	50V		1
C209	CC1-5-2500-KE00C	Ceramic	0.0015μF	50V	±10%	1
C211	CC4-7-1500-KE01R	Ceramic	470pF	50V	±10%	1
C212	CD4-7-5500-0001V	Electrolytic	4.7μF	50V		1
C213	CD1-0-7100-0006V	Electrolytic	100μF	10V		1
C214	CD4-7-6100-0001V	Electrolytic	47μF	10V		1
C215	CD4-7-7100-0006V	Electrolytic	470μF	10V		1
C216	4-2239-72290	Capacitor	0.15μF	50V		1
C218	CC3-3-1500-KE00C	Ceramic	330pF	50V	±10%	1
C219	CC2-2-1500-KE00C	Ceramic	220pF	50V	±10%	1
C301	CD2-2-7100-0006V	Electrolytic	220μF	10V		1
C302	CD3-3-5500-0001V	Electrolytic	3.3μF	50V		1
C303	CD2-2-6100-0001V	Electrolytic	22μF	10V		1
C304	CD2-2-7100-0006V	Electrolytic	220μF	10V		1
C305	CC1-0-3500-KE00C	Ceramic	0.01μF	50V	±10%	1
C306	CD3-3-763A-0006V	Electrolytic	330μF	6.3V		1
C307	CD3-3-763A-0006V	Electrolytic	330μF	6.3V		1
C308	CD1-0-7100-0006V	Electrolytic	100μF	10V		1
C309	CD2-2-8160-0006V	Electrolytic	2200μF	16V		1
C310	CD1-0-4500-0001V	Electrolytic	0.1μF	50V		1
C311	CC4-7-2500-KE00C	Ceramic	0.0047μF	50V	±10%	1
C313	CM6-8-2500-K00SV	Mylar	0.0068μF	50V	±10%	1
C314	CM2-2-3500-K00SV	Mylar	0.022μF	50V	±10%	1
C315	CM2-2-3500-K00SV	Mylar	0.022μF	50V	±10%	1
C316	CP2-7-2101-J000V	Polypropylen	0.0027μF	100V	±5%	1
C317	CC3-3-2500-KE00C	Ceramic	0.0033μF	50V	±10%	1
C318	CI2-2-3500-KF00C	Boundary	0.022μF	50V	±10%	1
C319	CD4-7-5500-0001V	Electrolytic	4.7μF	50V		1
R1	RP1-0-0121-JH000	Carbon	10Ω	1/8W	±5%	1
R2	RD3-3-4251-JM000	Carbon	330kΩ	1/4W	±5%	1
R3	RP3-3-4121-JH000	Carbon	330kΩ	1/8W	±5%	1
R4	RP3-3-4121-JH000	Carbon	330kΩ	1/8W	±5%	1
R6	RP3-3-2121-JH000	Carbon	3.3kΩ	1/8W	±5%	1
R7	RP1-0-5121-JH000	Carbon	1MΩ	1/8W	±5%	1
R8	RP2-2-2121-JH000	Carbon	2.2kΩ	1/8W	±5%	1
R9	RP1-0-0121-JH000	Carbon	10Ω	1/8W	±5%	1
R10	RP3-3-0121-JH000	Carbon	33Ω	1/8W	±5%	1
R11	RP1-5-3121-JH000	Carbon	15kΩ	1/8W	±5%	1
R12	RP1-0-2121-JH000	Carbon	1kΩ	1/8W	±5%	1
R13	RP4-7-1121-JH000	Carbon	470Ω	1/8W	±5%	1
R14	RP3-3-2121-JH000	Carbon	3.3kΩ	1/8W	±5%	1
R15	RP3-3-2121-JH000	Carbon	3.3kΩ	1/8W	±5%	1
R16	RP6-8-2121-JH000	Carbon	6.8kΩ	1/8W	±5%	1
R17	RP6-8-2121-JH000	Carbon	6.8kΩ	1/8W	±5%	1
R18	RP2-4-3121-JH000	Carbon	24kΩ	1/8W	±5%	1
R19	RP2-4-3121-JH000	Carbon	24kΩ	1/8W	±5%	1
R20	RD5-6-1251-JM000	Carbon	560Ω	1/4W	±5%	1
R21	RP4-7-0121-JH000	Carbon	47Ω	1/8W	±5%	1
R22	RD4-7-0251-JM000	Carbon	47Ω	1/4W	±5%	1
R23	RD1-0-2251-JM000	Carbon	1kΩ	1/4W	±5%	1
R24	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R25	RP2-4-0121-JH000	Carbon	24Ω	1/8W	±5%	1
R26	RP8-2-1121-JH000	Carbon	820Ω	1/8W	±5%	1
R101	RP2-2-2121-JH000	Carbon	2.2kΩ	1/8W	±5%	1
R102	RP2-7-3121-JH000	Carbon	27kΩ	1/8W	±5%	1
R103	RP2-7-3121-JH000	Carbon	27kΩ	1/8W	±5%	1
R104	RP3-9-0121-JH000	Carbon	39Ω	1/8W	±5%	1
R105	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R106	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R107	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R108	RP9-1-2121-JH000	Carbon	9.1kΩ	1/8W	±5%	1
R109	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R110	RP3-3-3121-JH000	Carbon	33kΩ	1/8W	±5%	1

Ref. No.	Part No.	Description				Q'ty
R111	RP8-2-1121-JH000	Carbon	820Ω	1/8W	±5%	1
R112	RP1-0-4121-JH000	Carbon	100kΩ	1/8W	±5%	1
R113	RP2-2-2121-JH000	Carbon	2.2kΩ	1/8W	±5%	1
R114	RP1-0-1121-JH000	Carbon	100Ω	1/8W	±5%	1
R115	RP6-8-1121-JH000	Carbon	680Ω	1/8W	±5%	1
R116	RD6-8-0251-JM000	Carbon	68Ω	1/4W	±5%	1
R118	RP8-2-3121-JH000	Carbon	82kΩ	1/8W	±5%	1
R119	RD4-7-4251-JM000	Carbon	470kΩ	1/4W	±5%	1
R120	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R121	RP1-5-4121-JH000	Carbon	150kΩ	1/8W	±5%	1
R122	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R123	RP2-7-2121-JH000	Carbon	2.7kΩ	1/8W	±5%	1
R201	RP2-2-2121-JH000	Carbon	2.2kΩ	1/8W	±5%	1
R202	RP2-7-3121-JH000	Carbon	27kΩ	1/8W	±5%	1
R203	RP2-7-3121-JH000	Carbon	27kΩ	1/8W	±5%	1
R204	RP3-9-0121-JH000	Carbon	39Ω	1/8W	±5%	1
R205	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R206	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R207	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R208	RP9-1-2121-JH000	Carbon	9.1kΩ	1/8W	±5%	1
R209	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R210	RP3-3-3121-JH000	Carbon	33kΩ	1/8W	±5%	1
R211	RP8-2-1121-JH000	Carbon	820Ω	1/8W	±5%	1
R212	RP1-0-4121-JH000	Carbon	100kΩ	1/8W	±5%	1
R213	RP2-2-2121-JH000	Carbon	2.2kΩ	1/8W	±5%	1
R214	RP1-0-1121-JH000	Carbon	100Ω	1/8W	±5%	1
R215	RP6-8-1121-JH000	Carbon	680Ω	1/8W	±5%	1
R216	RD6-8-0251-JM000	Carbon	68Ω	1/4W	±5%	1
R218	RP8-2-3121-JH000	Carbon	82kΩ	1/8W	±5%	1
R219	RD4-7-4251-JM000	Carbon	470kΩ	1/4W	±5%	1
R220	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R221	RP1-5-4121-JH000	Carbon	150kΩ	1/8W	±5%	1
R222	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R223	RP2-7-2121-JH000	Carbon	2.7kΩ	1/8W	±5%	1
R301	RP2-2-2121-JH000	Carbon	2.2kΩ	1/8W	±5%	1
R302	RP2-2-2121-JH000	Carbon	2.2kΩ	1/8W	±5%	1
R303	RP1-5-2121-JH000	Carbon	1.5kΩ	1/8W	±5%	1
R304	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R305	RP2-2-3121-JH000	Carbon	22kΩ	1/8W	±5%	1
R306	RP1-0-1121-JH000	Carbon	100Ω	1/8W	±5%	1
R307	RP4-7-1121-JH000	Carbon	470Ω	1/8W	±5%	1
R308	RP6-8-A121-JH000	Carbon	6.8Ω	1/8W	±5%	1
R309	RP1-8-1121-JH000	Carbon	180Ω	1/8W	±5%	1
R310	RD4-7-1251-JS000	Carbon	470Ω	1/4W	±5%	1
R311	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R312	RD8-2-0251-JM000	Carbon	82Ω	1/4W	±5%	1
R313	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R314	RP3-3-A121-JH000	Carbon	3.3Ω	1/8W	±5%	1

POWER SUPPLY P.C.B. ASSY

PCB2	141-0-1939-13033	Power Supply P.C.B. Assy	1
	⚠ 4-2359-70910	Holder Fuse	2
	4-2359-79570	Socket Wire Assy	1
	4-2359-79580	Socket Wire Assy	1
	4-2372-00830	EC Terminal 1P	3
F901	⚠ 4-2349-70140	Fuse (T 1A)	1
S901	4-2319-75320	Slide Switch (AC/DC)	1
S902	⚠ 4-2319-75770	Rotary Switch (Voltage Select)	1
T901	⚠ 4-2519-74125	Power Trans	1
D901	202-5-2540-13552	Diode, DS 135	1
D902	202-5-2540-13552	Diode, DS 135	1
D903	202-5-2540-13552	Diode, DS 135	1
D904	202-5-2540-13552	Diode, DS 135	1

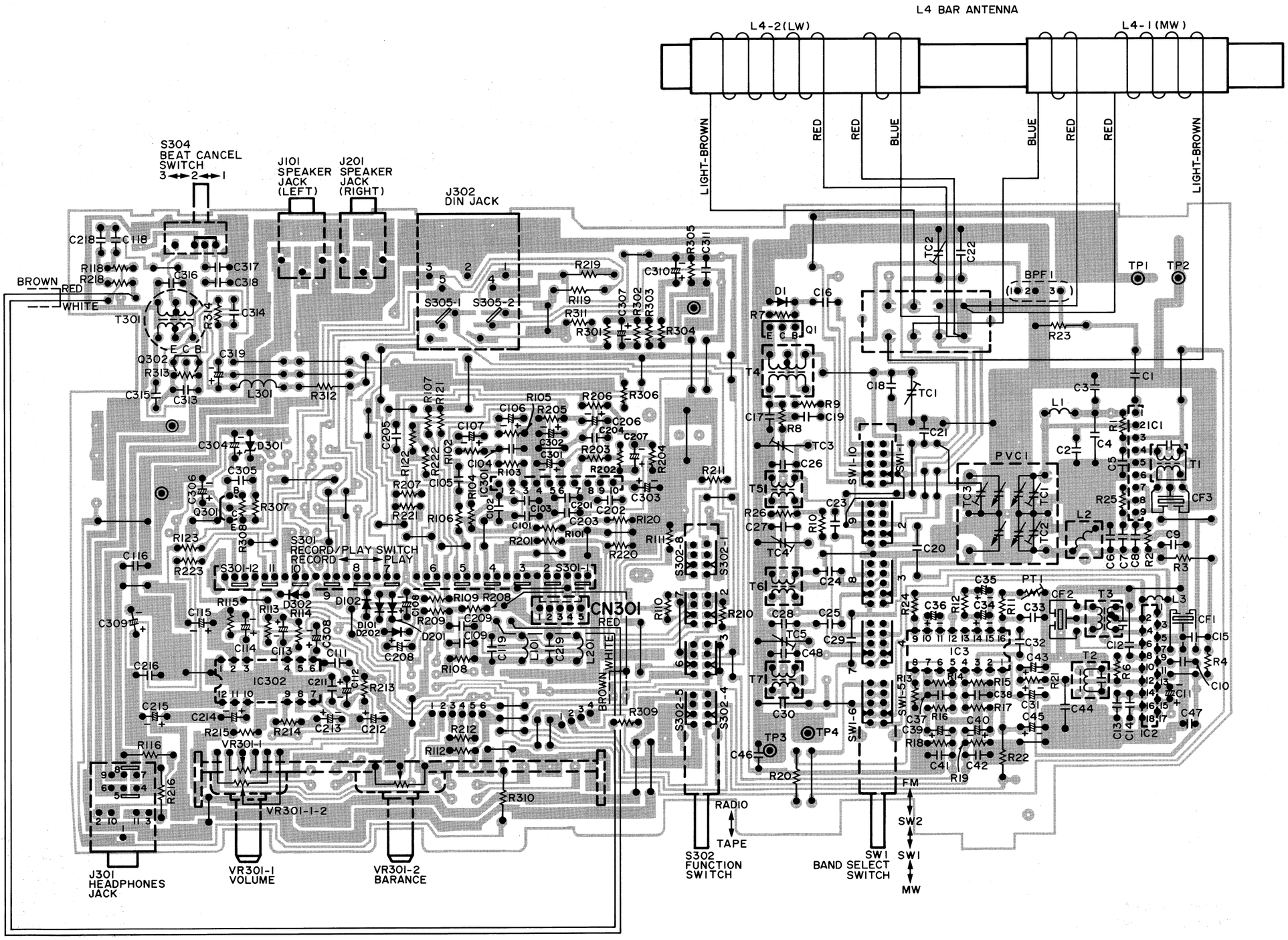
P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C901	CC1-0-4500-ZG00C	Ceramic	0.1μF	50V	+80,-20%	1
C902	CC1-0-4500-ZG00C	Ceramic	0.1μF	50V	+80,-20%	1
C903	CC1-0-4500-ZG00C	Ceramic	0.1μF	50V	+80,-20%	1
C904	CC1-0-4500-ZG00C	Ceramic	0.1μF	50V	+80,-20%	1
C905	CD1-0-8160-0001V	Electrolytic	1000μF	16V		1
	GRAPHIC EQUALIZER P.C.B. ASSY					
PCB3	141-0-1939-13012	Graphic Equalizer P.C.B. Assy				1
VR601	4-2229-75790	Slide Volume (W-100kΩ)				1
VR602	4-2229-75790	Slide Volume (W-100kΩ)				1
VR603	4-2229-75790	Slide Volume (W-100kΩ)				1
Q401	4-2039-72070	Transistor, 2SC 1740				1
or	203-5-5000-53664	Transistor, 2SC 536				1
Q402	4-2039-72070	Transistor, 2SC 1740				1
or	203-5-5000-53664	Transistor, 2SC 536				1
Q501	4-2039-72070	Transistor, 2SC 1740				1
or	203-5-5000-53664	Transistor, 2SC 536				1
Q502	4-2039-72070	Transistor, 2SC 1740				1
or	203-5-5000-53664	Transistor, 2SC 536				1
C401	CD1-0-5500-0001V	Electrolytic	1μF	50V		1
C402	CC1-0-1500-KE00C	Ceramic	100pF	50V	±10%	1
C403	CD1-0-5500-0001V	Electrolytic	1μF	50V		1
C404	CC1-0-2500-KE00C	Ceramic	0.001μF	50V	±10%	1
C405	CM1-8-2500-K00SV	Mylar	0.0018μF	50V	±10%	1
C406	CM2-7-2500-K00SV	Mylar	0.0027μF	50V	±10%	1
C407	CM8-2-2500-K00SV	Mylar	0.0082μF	50V	±10%	1
C408	CM1-2-3500-K00SV	Mylar	0.012μF	50V	±10%	1
C409	CM1-0-3500-K00SV	Mylar	0.01μF	50V	±10%	1
C410	CD1-0-5500-0001V	Electrolytic	1μF	50V		1
C501	CD1-0-5500-0001V	Electrolytic	1μF	50V		1
C502	CC1-0-1500-KE00C	Ceramic	100pF	50V	±10%	1
C503	CD1-0-5500-0001V	Electrolytic	1μF	50V		1
C504	CC1-0-2500-KE00C	Ceramic	0.001μF	50V	±10%	1
C505	CM1-8-2500-K00SV	Mylar	0.0018μF	50V	±10%	1
C506	CM2-7-2500-K00SV	Mylar	0.0027μF	50V	±10%	1
C507	CM8-2-2500-K00SV	Mylar	0.0082μF	50V	±10%	1
C508	CM1-2-3500-K00SV	Mylar	0.012μF	50V	±10%	1
C509	CM1-0-3500-K00SV	Mylar	0.01μF	50V	±10%	1
C510	CD1-0-5500-0001V	Electrolytic	1μF	50V		1
C601	CD3-3-763A-0006V	Electrolytic	330μF	6.3V		1
R401	RP3-3-4121-JH000	Carbon	330kΩ	1/8W	±5%	1
R402	RP3-3-4121-JH000	Carbon	330kΩ	1/8W	±5%	1
R403	RP2-2-2121-JH000	Carbon	2.2kΩ	1/8W	±5%	1
R404	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R405	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R406	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R407	RP6-8-2121-JH000	Carbon	6.8kΩ	1/8W	±5%	1
R408	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R409	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R410	RP2-2-3121-JH000	Carbon	22kΩ	1/8W	±5%	1
R411	RP1-8-3121-JH000	Carbon	18kΩ	1/8W	±5%	1
R412	RP1-8-3121-JH000	Carbon	18kΩ	1/8W	±5%	1
R413	RP3-3-3121-JH000	Carbon	33kΩ	1/8W	±5%	1
R414	RP1-0-5121-JH000	Carbon	1MΩ	1/8W	±5%	1
R415	RP3-9-2121-JH000	Carbon	3.9kΩ	1/8W	±5%	1
R416	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R417	RP1-5-3121-JH000	Carbon	15kΩ	1/8W	±5%	1
R501	RP3-3-4121-JH000	Carbon	330kΩ	1/8W	±5%	1
R502	RP3-3-4121-JH000	Carbon	330kΩ	1/8W	±5%	1
R503	RP2-2-2121-JH000	Carbon	2.2kΩ	1/8W	±5%	1
R504	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R505	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R506	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R507	RP6-8-2121-JH000	Carbon	6.8kΩ	1/8W	±5%	1
R508	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R509	RP4-7-2121-JH000	Carbon	4.7kΩ	1/8W	±5%	1
R510	RP2-2-3121-JH000	Carbon	22kΩ	1/8W	±5%	1
R511	RP1-8-3121-JH000	Carbon	18kΩ	1/8W	±5%	1
R512	RP1-8-3121-JH000	Carbon	18kΩ	1/8W	±5%	1
R513	RP3-3-3121-JH000	Carbon	33kΩ	1/8W	±5%	1
R514	RP1-0-5121-JH000	Carbon	1MΩ	1/8W	±5%	1
R515	RP3-9-2121-JH000	Carbon	3.9kΩ	1/8W	±5%	1
R516	RP1-0-3121-JH000	Carbon	10kΩ	1/8W	±5%	1
R517	RP1-5-3121-JH000	Carbon	15kΩ	1/8W	±5%	1
R601	RP1-0-1121-JH000	Carbon	100Ω	1/8W	±5%	1
	LED P.C.B. ASSY					
PCB4	141-0-1939-13021	LED P.C.B. Assy				1
	4-2439-72810	Flat Wire 4				1
D303	4-2029-71420	LED, SLP 155 B (OPR./BATT)				1
D304	4-2029-71420	LED, SLP 155 B (FM STEREO)				1

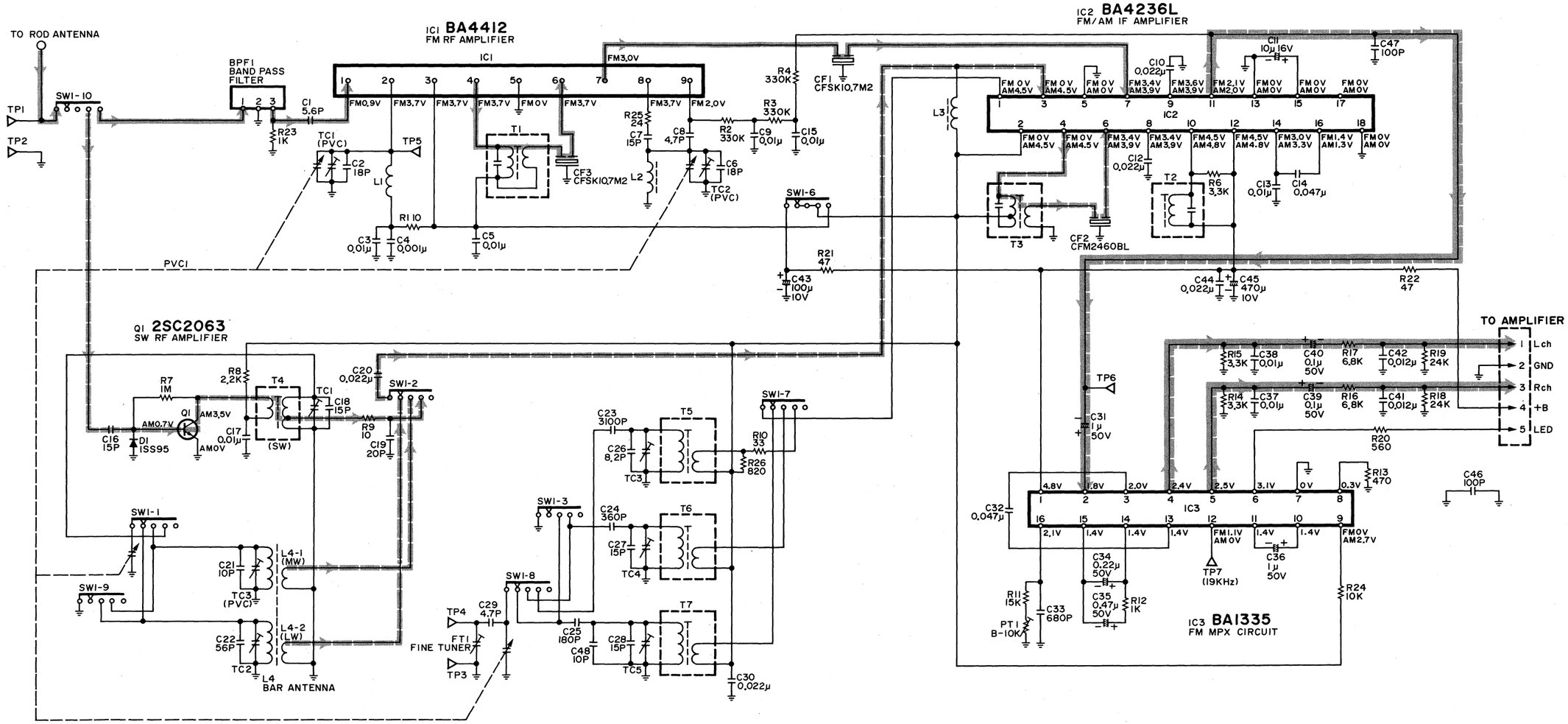
NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

AMP / TUNER P.C.BORD
(BOTTOM VIEW)



SCHEMATIC DIAGRAM (Tuner)

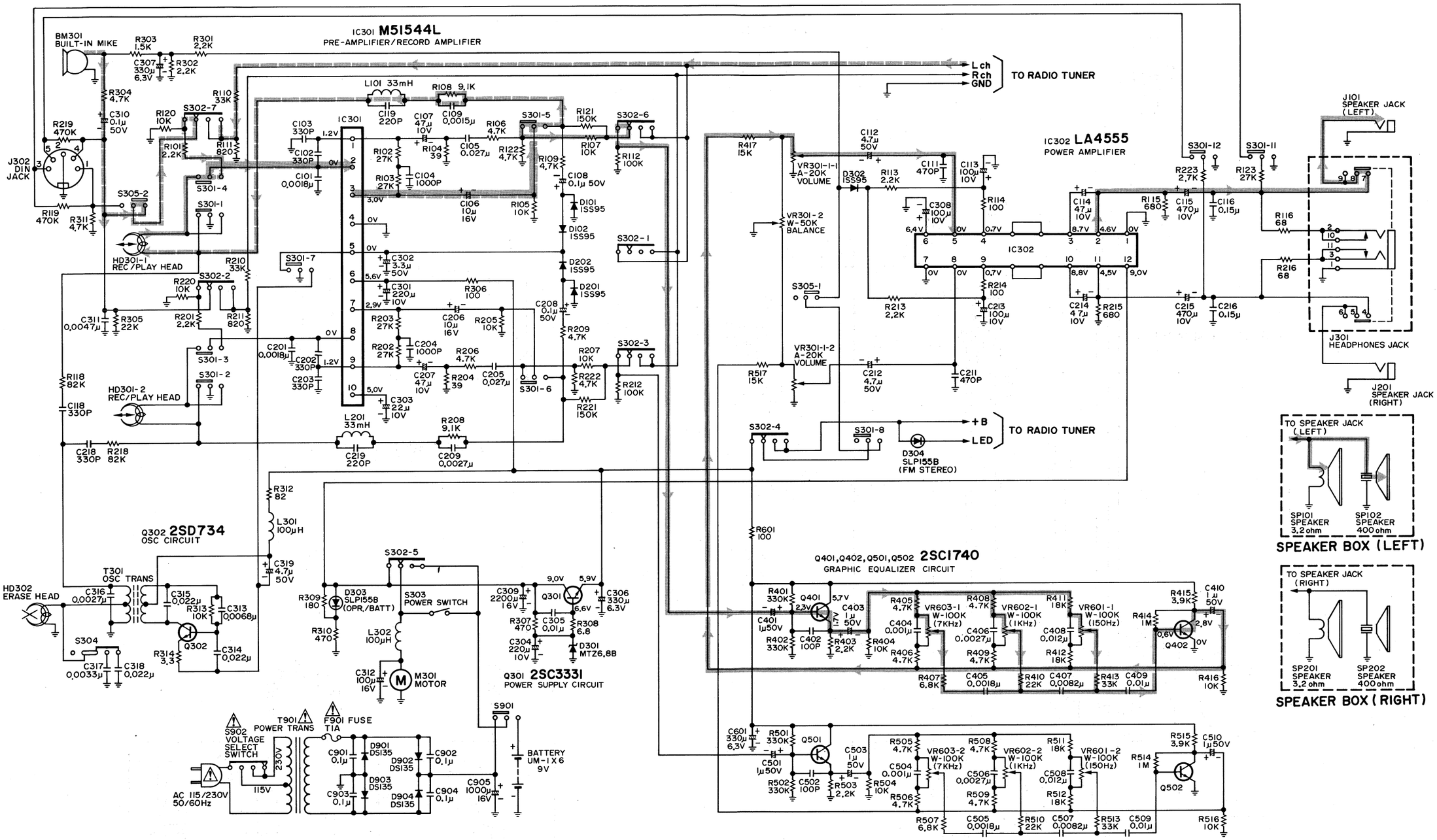


Signal flow of **FM**

Signal flow of **AM**

No.	Name	Position
SW1	Band Select Switch	LW
S301	Record/Play Switch	PLAY
S302	Function Switch	TAPE
S303	Power Switch	OFF
S304	Beat Cancel Switch	1
S901	AC / BATT Switch	AC
S902	Voltage Select Switch	230V

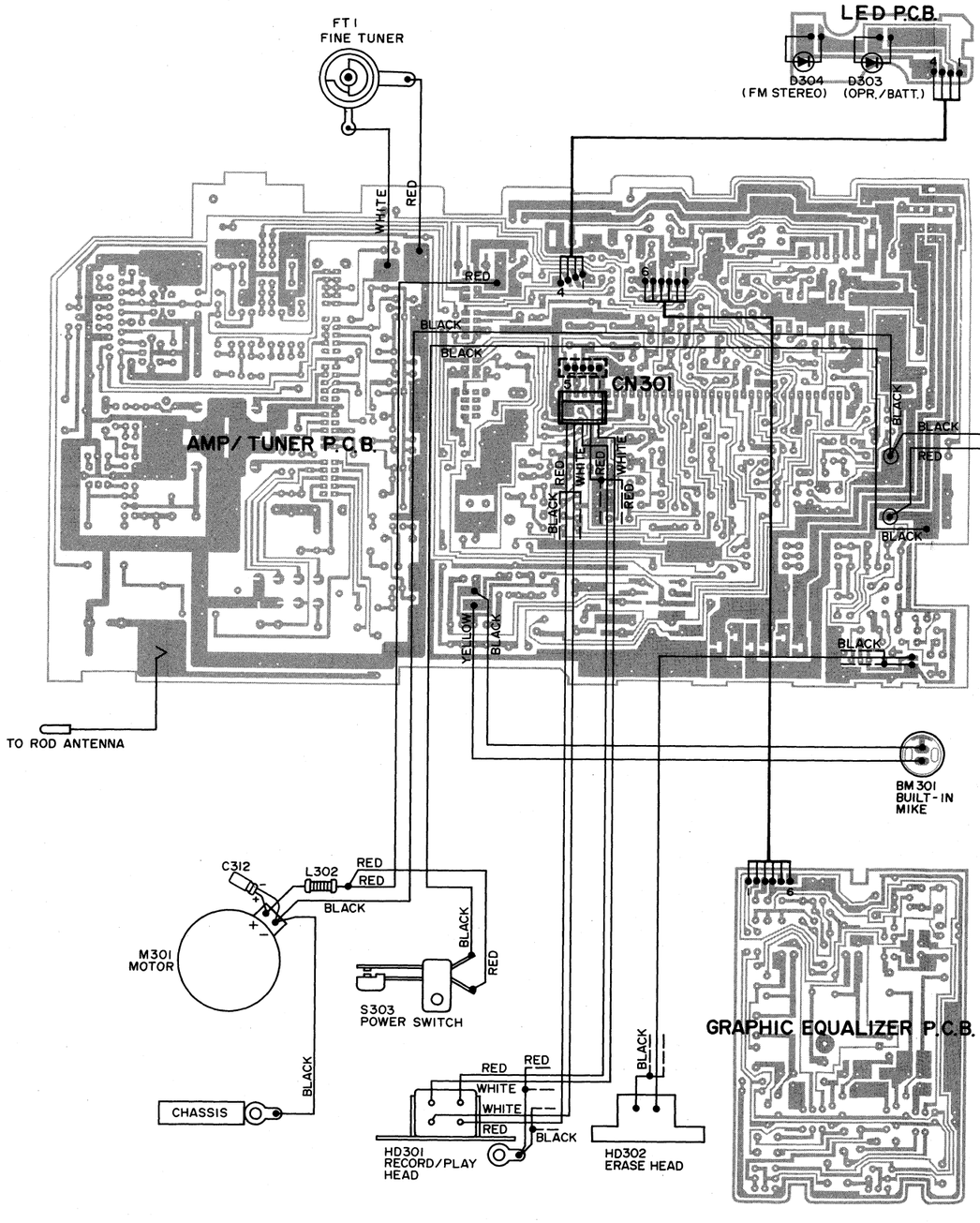
SCHEMATIC DIAGRAM (Amplifier)

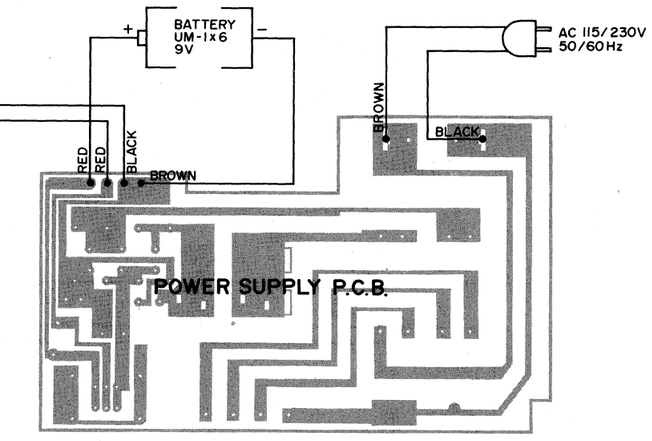


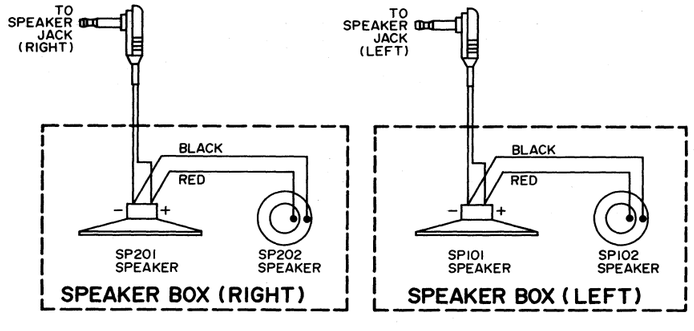
Signal flow of **PLAY**

Signal flow of **RECORD**

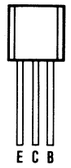
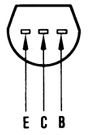
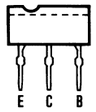
WIRING DIAGRAM



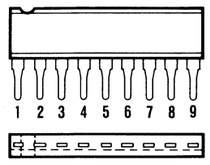




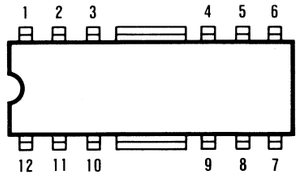
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SC1740 2SC3331 2SD734		
2SC2063		
TERMINAL NAME		
B → BASE C → COLLECTOR E → EMITTER		

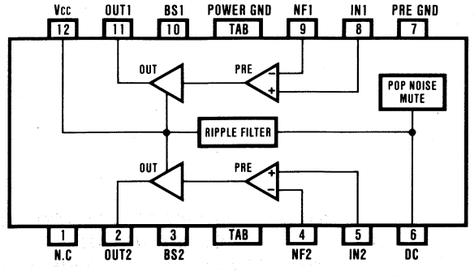
BA4412 FRONT/BOTTOM VIEWS



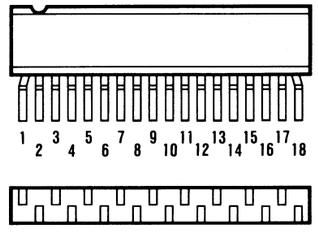
LA4555 BOTTOM VIEW



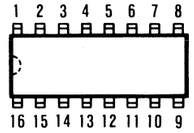
LA4555 BLOCK DIAGRAM



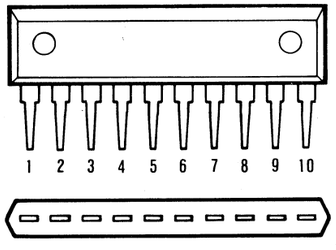
BA4236L FRONT/BOTTOM VIEWS



BA1335 BOTTOM VIEW



M51544L FRONT/BOTTOM VIEWS



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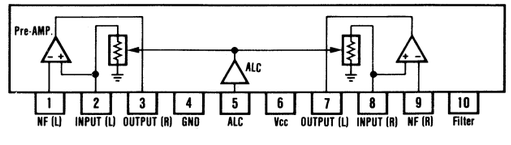

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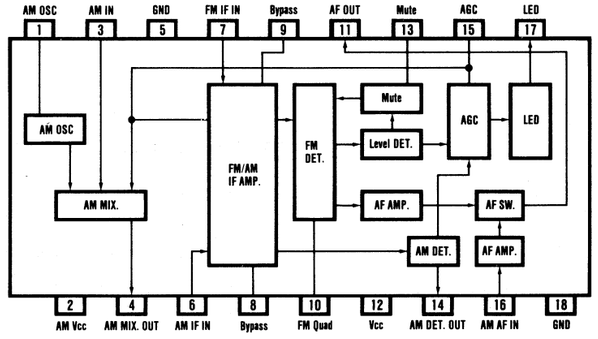

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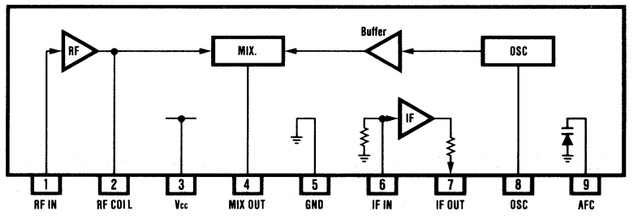

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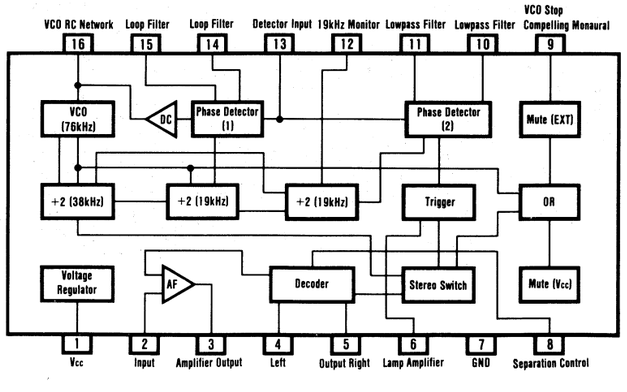
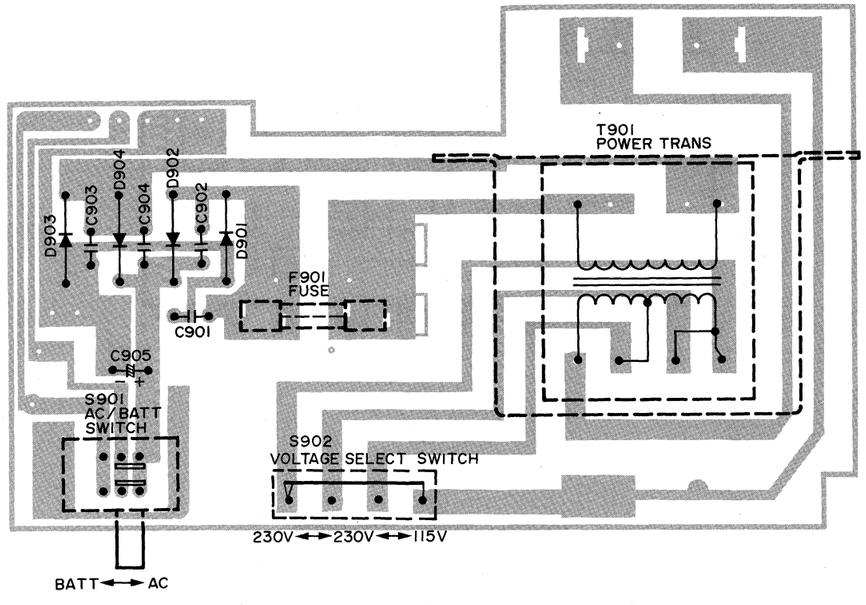
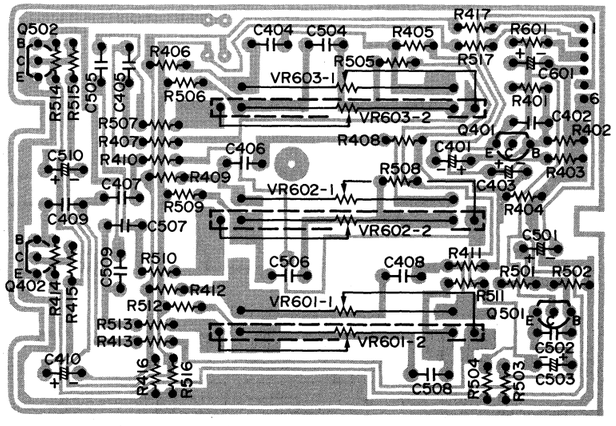


POWER SUPPLY P.C.BOARD
(BOTTOM VIEW)



GRAPHIC EQUALISER P.C.BOARD
(BOTTOM VIEW)



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